

AMENDMENTS TO THE CLAIMS

Claim 19 is amended.

Claims 21-22 are added.

Claims 9-11 and 13-22 remain in the application.

1-8. (Cancelled)

9. (Original) In a distributed file system that stores encrypted files across multiple computers, a method comprising:

modifying one or more of the encrypted files;
computing a hash value of each modified encrypted file;
collecting the hash values into a group;
computing a hash value of the group; and
digitally signing the hash value of the group of hash values.

10. (Original) A method as recited in claim 9, wherein the modified encrypted file includes a metadata stream containing a header and an indexing structure, the indexing structure including hashes of the files and a structure to access the hashes of the files, the computing a hash value of each modified encrypted file further comprising deriving a hash of the header and at least part of the structure.

11. (Original) A method as recited in claim 9, wherein the modified encrypted file includes a metadata stream containing a header, per user information, and an indexing tree, the indexing tree including hashes of the files,

branch nodes to access the hashes, and a root node, the computing a hash value of each modified encrypted file further comprising hashing as a single composite the header, the per user information, and the root node.

12. (Cancelled).

13. (Original) One or more computer readable media comprising computer-executable instructions that, when executed, perform the method as recited in claim 9.

14. (Original) One or more computer readable media comprising computer-executable instructions that, when executed, direct a computing device to:

modify individual files stored in a serverless distributed file system;

compute a hash value of each modified file;

collect the hash values into a group; and

digitally signing the group of hash values.

15. (Original) One or more computer readable media as recited in claim 14, wherein the modified file includes a metadata stream containing a header and an indexing structure, the indexing structure including hashes of the files and a structure to access the hashes of the files, the media further comprising computer-executable instructions that, when executed, direct a computing device to derive a hash of the header and at least part of the structure.

16. (Original) One or more computer readable media as recited in claim 14, wherein the modified file includes a metadata stream containing a header, per user information, and an indexing tree, the indexing tree including hashes of the files, branch nodes to access the hashes, and a root node, the media further comprising computer-executable instructions that, when executed, direct a computing device to hash as a single composite the header, the per user information, and the root node.

17. (Previously Presented) One or more computer readable media comprising computer-executable instructions that, when executed, direct one or more computing devices to store a data structure comprising:

representations of modifications made to multiple files stored in a distributed file system such that each said modification has a corresponding said representation;

a representation of a collection of the representations of the modifications;
and

a digital signature covering at least part of the representations to indicate that the modifications were made by a user with the signature.

18. (Previously presented) One or more computer readable media as recited in claim 17, wherein the representations comprise hashes of data in each file that is affected by the modifications.

19. (Currently Amended) A method comprising:

storing representations of modifications made to multiple files stored in a distributed file system such that each said modification has a corresponding said representation;

storing a representation of a collection of the representations of the modifications; and

storing a single digital signature covering at least part of the representations to indicate that the modifications were made by a user with the signature, the single digital signature providing file authentication information for each of the multiple files.

20. (Previously presented) A method recited in claim 19, wherein the representations comprise hashes of data in each file that is affected by the modifications.

21. (New) A method recited in claim 19, wherein the representation of the collection comprises a hash of the representations of the modifications.

22. (New) One or more computer readable media as recited in claim 17, wherein the representation of the collection comprises a hash of the representations of the modifications.